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10/697,626	10/30/2003	Gerald R. Stanley	11336/585(P04016US)	7324

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EXAMINER	
FAULK, DEVONA E	
ART UNIT	**PAPER NUMBER**
2615	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/10/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Office Action Summary	Application No.	Applicant(s)	
	10/697,626	STANLEY, GERALD R.	
	Examiner	**Art Unit**	
	Devona E. Faulk	2615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 October 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7,10-18,21-26,28,29,31,32,35 and 37-42* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7,10-18,21-26,28,29,31,32,35 and 37-42* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 October 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Remarks

1. The applicant amended the independent claims with previous indicated allowable subject matter of claim 8. Upon further consideration, the examiner has determined that the previous recited claim language of claim 8 is met by prior art Alexander. Furthermore the examiner has art that will be cited below, that discloses that the previous recited elements of claim 8 are inherent to a current feedback amplifier.

2. The indicated allowability of claim 8 is withdrawn. Rejections based on the previous cited reference(s) follow.

3. Claims 8-9,19-20,27,30,33-34,36 are cancelled.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. **Claims 1,15,21-26,28,31,32,36,37 and 42** are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim (US 5,598,480) in view of Alexander (US 5,097,223) in view of Iredale (US 4,670,709).

Regarding **claim 1,** Kim discloses a loudspeaker system for receiving an incoming electrical signal and transmitting an acoustical signal, the loudspeaker system comprising:

a driver circuit having an input with an input impedance, wherein the driver circuit comprises a first passive filter (36) coupled to a first speaker driver (30) and a second passive filter (38) coupled to a second speaker driver (32) (See Figure 1;

a power amplifier (10) having an input and an output with an output (Figure 1);

wherein the input of the power amplifier receives the incoming electrical signal, and the output of the power amplifier is coupled to the input of the driver circuit (Figure 1).

Kim fails to disclose that the power amplifier includes a current feedback audio power amplifier (See abstract; Figure 2).

Alexander teaches of a power amplifier that comprises a current feedback audio power amplifier (See abstract; Figure 2) including a current monitor operable to sense an output current at the output (R_{FB}), and a feedback circuit coupled with the current monitor (Figure 1), the feedback circuit operable to generate a feedback signal to create the desired output impedance. It is implicit that the since the output is fed back to the input that it would be a factor in determining the output impedance. It would have been obvious to modify Kim so that the power amplifier is a current feedback audio power amplifier for the benefit of achieving a high large-signal bandwidth.

Kim as modified by Alexander fails to teach that the power amplifier's output impedance is between about 25 percent and about 400 percent of the input impedance of the driver circuit. Iredale discloses an audio system wherein the power amplifier (5) approximately matches the input impedance of a speaker (impedance matching; column 2, lines 30-33; Iredale reads on the output impedance being about 100% of the input

impedance and 100% is between 25 and 400%). Thus it would have been obvious to one of ordinary skill to have the impedance of the power amplifier approximately match the input to provide an output that is compatible with a balanced signal input.

5. **Claim 15 and 26** share common features.

Regarding **claim 15**, Kim discloses a method of constructing a loudspeaker system for receiving an incoming electrical signal and transmitting an acoustical signal, the method comprising:

selecting a first speaker (30, Figure 2; reads a first speaker driver of claim 26) driver having first cold impedance;

selecting a second speaker (32, Figure 2; reads on second speaker driver of claim 26) driver having a second cold impedance (Figure 1);

constructing a first passive filter having a second cold impedance (36, Figure 1; reads a first filter means of claim 26);

constructing a second passive filter having an input and an output (38,Figure 1; reads on second filter means of claim 26);

coupling the output of the first passive filter to the first speaker driver so that the input of the first passive filter has a first combined cold impedance (Figure 1) ;

coupling the output of the second passive filter to the second speaker driver so that the input of the second passive filter has a second combined cold impedance (Figure 1) ;

forming a passive arrangement of the first speaker driver, the second speaker driver, the first passive filter and the second passive filter by coupling the input of the

first passive filter to the input of the second passive filter, where the passive arrangement has an arrangement cold impedance(Figure 1) ;

constructing an audio power amplifier an input for receiving said incoming electrical signal and an output (10, Figure 1; reads on an audio amplification means of claim 26) ; and

setting an output impedance of the audio power amplifier with a current feedback circuit included in the audio power amplifier,

coupling the output of the power amplifier to the input of the first passive filter and to the input of the second passive filter (Figure 1). The method is inherent in the functionality of the system.

Kim fails to disclose a current feedback audio power amplifier (See abstract; Figure 2). Alexander discloses that the power amplifier comprises a current monitor operable to sense an output current at the output, and a feedback circuit coupled with the current monitor, the feedback circuit operable to generate a feedback signal to create the desired output impedance. Alexander discloses a current feedback amplifier and a current sensor (R_{FB}) , and a feedback circuit (Figure 1) operable to generate a feedback signal. It is implicit that the since the output is fed back to the input that it would be a factor in determining the output impedance. It would have been obvious to modify Kim so that the power amplifier is a current feedback audio power amplifier for the benefit of achieving a high large-signal bandwidth. It would have been obvious to modify Kim so that the power amplifier is a current feedback audio power amplifier for the benefit of achieving a high large-signal bandwidth.

Kim as modified by Alexander fails to teach that the power amplifier's output impedance is between about 25 percent and about 400 percent of the arrangement cold impedance of the driver circuit. Iredale discloses an audio system wherein the power amplifier (5) approximately matches the input impedance of a speaker (impedance matching; column 2, lines 30-33; Iredale reads on the output impedance being about 100% of the input impedance and 100% is between 25 and 400%; reads on the audio amplification means comprises a current-feedback amplifier as claimed in claim 26). Thus it would have been obvious to one of ordinary skill to have the impedance of the power amplifier approximately match the input to provide an output that is compatible with a balanced signal input.

All elements of **claim 26** are comprehended by the rejection of claim 15.

Regarding **claims 21 and 23,** Kim as modified by Alexander and Iredale disclose wherein selecting the first speaker driver comprises selecting a first speaker driver having a cold impedance of about 4 Ohms (claim 21) and wherein selecting the first speaker driver comprises selecting a first speaker driver having a cold impedance of about 8 ohms (claim 23). Kim as modified by Iredale teaches of matching the output impedance of a power amplifier to a speaker but fails to specifically disclose that the first speaker driver has a cold impedance of 4 or 8 ohms. Alexander teaches of a driver exhibiting an impedance of approximately 4 to 10 ohms (column 7, lines 32-37), which is inclusive of 4 and 8.

Regarding **claims 22 and 24,** Kim as modified by Alexander and Iredale disclose wherein constructing a power amplifier comprises constructing a power amplifier where

the output has an output impedance that is between about 2 ohms and about 8 ohms (claim 22) and wherein constructing a power amplifier comprises constructing a power amplifier where the output has an output impedance that is between about 2 ohms and about 16 ohms (claim 24) (see above apropos rejection of claim 21 and 24).

Regarding **claim 25**, Kim as modified by Alexander and Iredale disclose an enclosure, and mounting the first and second passive filters, the first and second speaker drivers to the enclosure and the audio power amplifier mounted to the enclosure (Kim, Figure Figures 1 and 2).

Regarding **claim 28,** Kim as modified by Alexander and Iredale disclose wherein the current-feedback amplifier has an output impedance between about 2 ohms and about 16 ohms. Iredale discloses an audio system wherein the power amplifier (5) approximately matches the input impedance of a speaker (impedance matching; column 2, lines 30-33). The nominal impedance for loudspeakers is 4,18 and 16. The current-feedback amplifier reads on power amplifier. Alexander teaches of a driver exhibiting an impedance of approximately 4 to 10 ohms (column 7, lines 32-37).

Regarding **claim 36**, Kim as modified by Alexander and Iredale discloses wherein the audio power amplifier includes a feedback circuit operable to generate a feedback signal to create the desired impedance (see above apropos rejection of claim 1).

6. Regarding **claim 31**, Kim discloses a loudspeaker system for receiving an incoming electrical signal and transmitting an acoustical signal, the loudspeaker system comprising:

a driver circuit having a cold input impedance (Figure 2, cold input impedance is implicit);

a power amplifier (10, Figure 2).

Kim fails to disclose a current feedback audio power amplifier (See abstract; Figure 2).

Alexander teaches of a power amplifier that comprises a current feedback audio power amplifier (See abstract; Figure 2) including a current monitor operable to sense an output current at the output (R_{FB}) , and a feedback circuit coupled with the current monitor (Figure 1), the feedback circuit operable to generate a feedback signal to create the desired output impedance. It is implicit that the since the output is fed back to the input that it would be a factor in determining the output impedance. It would have been obvious to modify Kim so that the power amplifier is a current feedback audio power amplifier for the benefit of achieving a high large-signal bandwidth.

Kim as modified by Alexander discloses a current-feedback amplifier as claimed. Kim as modified by Alexander fails to disclose matching the output impedance to the cold input impedance. Iredale discloses an audio system wherein the power amplifier (5) approximately matches the input impedance of a speaker (impedance matching; column 2, lines 30-33). The nominal impedance for loudspeakers is 4,18 and 16. The current-feedback amplifier reads on power amplifier. Alexander teaches of a driver exhibiting an impedance of approximately 4 to 10 ohms (column 7, lines 32-37) Impedance matching, which for maximum power transfer between an amplifier and a speaker would mean that the impedance of the speaker matches that of power

amplifier, is well known in the art. It would have been obvious to one of ordinary skill in the art at the time of the invention to have the current-feedback amplifier output impedance to match that of the amplifier in order to prevent any effects to the frequency response of the output signal.

All elements of **claim 42** are comprehended by the rejection of claim 31.

7. Regarding **claim 32**, Kim discloses a method of operating a loudspeaker system that converts an incoming electrical signal to an acoustical signal, the method comprising:

Operating a driver circuit in a temperature range so that an input impedance of the driver circuit is in an operational range (Kim, implicit);

a power amplifier; amplifying the incoming electrical signal (10, Figure 2);

driving the driver circuit with the driving electrical signal (Figure 2).

Kim fails to disclose a current feedback audio power amplifier (See abstract; Figure 2).

Alexander teaches of a power amplifier that comprises a current feedback audio power amplifier (See abstract; Figure 2) including a current monitor operable to sense an output current at the output (R_{FB}) , and a feedback circuit coupled with the current monitor (Figure 1), the feedback circuit operable to generate a feedback signal to create the desired output impedance. It is implicit that the since the output is fed back to the input that it would be a factor in determining the output impedance. It would have been obvious to modify Kim so that the power amplifier is a current feedback audio power amplifier for the benefit of achieving a high large-signal bandwidth. It would have been

obvious to modify Kim so that the power amplifier is a current feedback audio power amplifier for the benefit of achieving a high large-signal bandwidth.

Kim as modified by Alexander discloses a current-feedback amplifier as claimed. Kim as modified by Alexander fails to disclose matching the output impedance to the cold input impedance. Iredale discloses an audio system wherein the power amplifier (5) approximately matches the input impedance of a speaker (impedance matching; column 2, lines 30-33). The nominal impedance for loudspeakers is 4,18 and 16. The current-feedback amplifier reads on power amplifier. Alexander teaches of a driver exhibiting an impedance of approximately 4 to 10 ohms (column 7, lines 32-37) Impedance matching, which for maximum power transfer between an amplifier and a speaker would mean that the impedance of the speaker matches that of power amplifier, is well known in the art. It would have been obvious to one of ordinary skill in the art at the time of the invention to have the current-feedback amplifier output impedance to match that of the amplifier in order to prevent any effects to the frequency response of the output signal.

Regarding **claim 37**, Kim as modified by Alexander and Iredale discloses a feedback circuit with a transfer ration (implicit) and an impedance. Kim as modified fails to disclose that the transfer ratio is the same as the desired impedance.
Impedance matching, which for maximum power transfer between an amplifier and a speaker would mean that the impedance of the speaker matches that of power amplifier, is well known in the art. It would have been obvious to one of ordinary skill in the art at the time of the invention to have the current-feedback amplifier output

impedance to match the transfer ratio in order to prevent any effects to the frequency response of the output signal.

8. **Claims 2,3 ,16 and 17** are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim (US 5,598,480) in view of Alexander (US 5,097,223) in view of Iredale (US 4,670,709) in further view of Ohyaba et al. (US 4,504,704).

Regarding **claims 2 and 3,** Kim as modified by Alexander and Iredale fail to disclose but Ohyaba teaches of wherein the first passive filter comprises an inductor and a capacitor and the second passive filter comprises an inductor and a capacitor. Kim teaches of filter networks (36,38). Ohyaba discloses a passive filter comprised of an inductor and capacitor (Figure 11; column 5, lines 59-63). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use Ohyaba's concept of a passive filter comprised of an inductor and capacitor as claimed in order to provide a loudspeaker unit in which a reproducible frequency band can be extended toward a bass zone.

Regarding **claims 16 and 17,** Kim as modified by Alexander and Iredale fail to disclose but Ohyaba teaches of wherein constructing the first passive filter comprises coupling an inductor to a capacitor and wherein constructing the second passive filter comprises coupling an inductor to a capacitor respectively. Kim teaches of filter networks (36,38).Ohyaba discloses a passive filter comprised of an inductor and capacitor (Figure 11; column 5, lines 59-63). The method is obvious. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use Ohyaba's concept of a passive filter comprised of an inductor and capacitor as

claimed in order to provide a loudspeaker unit in which a reproducible frequency band can be extended toward a bass zone.

9. **Claims 4,5 and 18** are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim (US 5,598,480) in view of Alexander (US 5,097,223) in view of Iredale (US 4,670,709) in further view of Widrow et al. (US 4,751,738).

Regarding **claim 4**, Kim as modified by Alexander and Iredale fail to disclose but Widrow teaches of wherein the passive filter comprises a Butterworth filter. Kim discloses two passive filter networks (36,38). Widrow discloses a passive filter comprised of a fourth-order Butterworth filter. Therefore, it would have been obvious to one of ordinary skill in the art to use Widrow's concept of a passive filter comprised of a fourth-order Butterworth filter for the benefit minimizing frequency roll-offs.

Regarding claim 5, Kim as modified by Alexander, Iredale and Widrow disclose wherein the first passive filter comprises a fourth-order filter (see above apropos rejection of claim 4).

Regarding claim 18, Kim as modified by Alexander, Iredale and Widrow disclose wherein the passive filter comprises constructing a Butterworth filter. Kim as modified by Iredale meets all elements of that claim but fails to disclose that the passive filter is a Butterworth filter (see above apropos rejection of claim 5).

10. **Claims 6, 7,10-13 and 29** are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim (US 5,598,480) in view of Alexander (US 5,097,223) in view of Iredale (US 4,670,709) in further view of in further view of Gary (US 5,533,135).

Regarding, claims 6,7 and 29, Kim as modified by Alexander and Iredale discloses an audio system wherein the power amplifier (5) approximately matches the input impedance of a speaker (Iredale; impedance matching; column 2, lines 30-33; Iredale reads on the output impedance being about 100% of the input impedance and 100% is between 25 and 400%).

Kim as modified by Alexander and Iredale fail to teach but, wherein the first passive filter has an output characteristic termination impedance, the first speaker driver has a cold impedance, and the output characteristic termination impedance of the first passive filter is between about 25 percent and about 400 percent of the cold impedance of the first speaker driver and wherein the second passive filter has an output characteristic termination impedance, the second speaker has a cold impedance, and the output characteristics termination impedance of the second passive filter is between about 25 and about 400 percent of the cold impedance of the second speaker driver.

Kim as modified by Alexander and Iredale reads on a first passive filter, a first speaker driver, a second passive filter, and a second speaker driver (Kim, Figure 2) but fails to specifically teach that the first passive filter or the second passive filter is between about 25 and about 400 percent of the cold impedance of the first speaker driver. Gary discloses crossover system including a filter section (21) comprising inductances and capacitors whose values are chosen to match the impedance of the speaker (24; column 4, lines 13-17). It would have been obvious to modify Kim as modified by Alexander and Iredale so that the filter impedance matches that of the speaker driver in order to produce the maximum desired output.

Regarding claims 10,12, Kim as modified by Alexander and Iredale discloses an audio system wherein the power amplifier (5) approximately matches the input impedance of a speaker (Iredale; impedance matching; column 2, lines 30-33; Iredale reads on the output impedance being about 100% of the input impedance and 100% is between 25 and 400%).

Kim as modified by Alexander and Iredale fail to disclose but Gary teaches of wherein the first speaker driver has a cold impedance of about 4 ohms, the first passive filter has an output characteristic termination impedance of about 4 ohms, and the output impedance of the power amplifier is between 1 ohms and about 16 ohms and wherein the first speaker driver has a cold impedance of about 8 ohms, the first passive filter has an output characteristic termination impedance of about 8 ohms, and the output impedance of the power amplifier is between 2 ohms and 32 ohms.

Alexander teaches of a driver exhibiting an impedance of approximately 4 to 10 ohms (column 7, lines 32-37) but fails to teach of a filter having an impedance to match. Gary discloses crossover system including a filter section (21) comprising inductances and capacitors whose values are chosen to match the impedance of the speaker (24; column 4, lines 13-17). It would have been obvious to one of ordinary skill in the art at the time of the invention to have the filter termination impedance and the output impedance of the power amplifier match that of the driver in order to prevent the output impedance from negatively effecting the frequency response.

Regarding claims 11,13, Kim as modified by Alexander and Iredale discloses an audio system wherein the power amplifier (5) approximately matches the input

impedance of a speaker (Iredale; impedance matching; column 2, lines 30-33; Iredale reads on the output impedance being about 100% of the input impedance and 100% is between 25 and 400%).

Kim as modified by Alexander and Iredale fail to disclose wherein the second speaker driver has a cold impedance of about 4 ohms, the second passive filter has an output characteristic termination impedance of about 4 ohms, and the output impedance of the power amplifier is between about 2 ohms and about 8 ohms and wherein the second speaker driver has a cold impedance of about 8 ohms, the second passive filter has an output characteristic termination impedance of about 8 ohms, and the output impedance of the power amplifier is between about 4 ohms and about 16 ohms.

Alexander teaches of a driver exhibiting an impedance of approximately 4 to 10 ohms (column 7, lines 32-37) but fails to teach of a filter having an impedance to match. Gary discloses crossover system including a filter section (21) comprising inductances and capacitors whose values are chosen to match the impedance of the speaker (24; column 4, lines 13-17). It would have been obvious to one of ordinary skill in the art at the time of the invention to have the filter termination impedance and the output impedance of the power amplifier match that of the driver in order to prevent the output impedance from negatively effecting the frequency response.

11. **Claims 14 and 41** are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim (US 5,598,480) in view of Alexander (US 6,381,334) in view of Iredale (US 4,670,709) in further view of Grudin et al. (US Patent Application 2004/0101153).

Regarding **claim 14**, Kim as modified by Alexander and Iredale discloses a speaker system and a power amplifier. Kim as modified by Alexander and Iredale fail to disclose but Grudin teaches of further comprising an enclosure, wherein the driver circuit and the power amplifier are each affixed to the enclosure. Kim as modified by Iredale fails to disclose that the driver and power amplifier are within the same enclosure. Grudin discloses a speaker enclosure (6; Figure 9) that houses a driver (5) and an power amplifier (7) (page 5, paragraph 0068; page 7, paragraph 0091). Thus it would have been obvious to one of ordinary skill in the art to use Grudin's concept of a speaker enclosure housing a driver and power amplifier in order to have an integrated speaker system.

Regarding **claim 41**, Kim as modified by Alexander and Iredale discloses a speaker system and a power amplifier comprising a current feedback amplifier. Kim as modified by Alexander and Iredale fail to disclose a speaker enclosure housing the driver circuit and the current feedback amplifier. However the concept of a speaker enclosure housing a driver and an amplifier was well known in the art as taught by Grudin. Grudin discloses a speaker enclosure (6; Figure 9) that houses a driver (5) and a power amplifier (7) (page 5, paragraph 0068; page 7, paragraph 0091). Thus it would have been obvious to one of ordinary skill in the art to use Grudin's concept of a speaker enclosure housing a driver and power amplifier in order to have an integrated speaker system.

12. **Claims 35,38 and 40** are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim (US 5,598,480) in view of Alexander (US 5,097,223) in further view of Iredale (US 4,670,709) in further view of Sedra (Microelectronic Circuits, pages 668-671, Figure 8.1).

Regarding **claim 35**, Kim as modified by Alexander and Iredale fail to disclose but Sedra discloses where the amplifier includes a summer configured to sum the incoming electrical signal and a feedback signal generated with the audio power amplifier (Figure 8.1). Kim as modified by Alexander and Iredale disclose an current-feedback audio power amplifier and matching the output of the power amplifier to the input impedance of the driver circuit (reads on forming desired impedance at the output). It would have been obvious to modify Kim as modified by Alexander and Iredale so that the power amplifier includes a summer configured to sum the incoming electrical signal and a feedback signal as taught by Sedra in order to produce a signal that includes the feedback signal.

Regarding **claim 38**, Kim as modified by Alexander and Iredale fail to disclose but Sedra discloses where setting the output impedance of the audio power amplifier with a current feedback circuit comprises summing the incoming electrical signal with a feedback signal generated by the feedback circuit to create the output impedance. Claim 38 is rejected for the same reasons set forth in the above apropos rejection of claim 35.

Regarding **claims 39 and 40**, Kim as modified by Alexander and Iredale fail to disclose but Sedra discloses where amplifying the incoming electrical signal comprises

summing the feedback signal and the incoming electrical signal to produce the driving electrical signal. Claims 39 and 40 are rejected for the same reasons set forth in the above apropos rejection of claim 35.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US 4,335,274 to Ayers discloses a sound reproduction system.

Alexander, Mark. The Alexander Current-Feedback Audio Power Amplifier.

Analog Devices.

Current Feedback Amplifier Theory and Applications. Intersil Corporation.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Devona E. Faulk whose telephone number is 571-272-7515. The examiner can normally be reached on 8 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on 571-272-7848.

The Art Unit location of your application in the USPTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Art Unit 2615.The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DEF

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